

In re application of	:	DEAS Alexander Roger, et. al.
Serial No.	:	10/090,829
Filed	:	03/06/2002
Art unit	:	2664
Examiner	:	Nguyen, Binh Quoc

1. The Examiner asserts that an interface device as claimed in claim 1 is essentially the same as described in the prior art by Sekino.

The Applicant believes that the invention as disclosed in the application materials and claims differs substantially from the prior art interface device by Sekino, as it will become evident from the following explanations.

1.1 The main misunderstanding of the invention, in the Applicant's opinion, is that, while the interface device described by Sekino uses correction coefficients stored at the time of manufacture, the interface device according to the present invention provides adjustment of those coefficients in real time before each test, thus enabling cross talk timing errors caused by particular signal pattern and particular combination of signals to be accurately corrected.

Thus, as can be read in paragraph [0011] of 10/090,829:

“According to still another method, such as described in US 5,225,775, the DUT connection board is equipped with a nonvolatile storage for storing data on the delay times in the transmission line on the connection board corresponding to each terminal of the device under test, and the tester main body unit is so constructed as to adjust the test signal send-out timing and the device output response signal acquisition timing based on the data read out of the storage. Storing the actual topography and topography dependent parameters in a serial presence detect (SPD) memory and adjusting a control signal accordingly is known also from US 6,321,282. This suffers the same problems as previously mentioned, i.e. **the electrical length during isolated test differs from that in service due to the neglect of the crosstalk coefficients.**

According to US 5,225,775, a calibration procedure is performed by selecting one of a plurality of transmission lines on the connection board and measuring a time required for a signal to pass via this connection board, while all the other transmission lines are silent. Thus, cross-talk from adjacent lines is not taken into account.”

On the contrary, as stated in paragraph [0046], lines 13 – 24:

“Thus, one of the important features of the present invention is that the **timing errors caused by crosstalk effects are measured when the tester is**

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running a test pattern to provide compensation of the timing error caused by this particular combination of signals. The knowledge of the influence of the signal crosstalk for each data pattern provides a basis for crosstalk compensation for each data pattern. Another important feature is that the timing errors are measured for a group of signals and the compensation coefficients are applied to these groups also to adjust the position of this group in whole with respect to a reference signal.”

Further, in paragraphs [0047], [0048], the differences are explained in more detail:

[0047] “To the contrary, according to a method as described in US 5,225,775, the measurements of the delay times and storing of the measured data into the storage **are performed on the stage when the interface device has been fabricated**, i.e. with **no regard to a particular test pattern**, also, **the possibility of correcting these data during the exploitation of the interface device in a particular application is neither proposed, nor surmised.**”

Additional features are stated further:

[0048] “Moreover, according to the known method, the delay times are stored for each transmission line and correction is applied to each signal. However, in practice, in high speed transmission of signals, it has been discovered that the skew between signals within one group is relatively low comparing to the skew between different groups of signals. Thus, it is assumed in the present invention that the timing skew of individual signals within one group is less than the skew of the group of signals in whole. For example, the group skew equal to ± 250 ps means that the individual signal skew is lower than ± 250 ps.”

To further clarify the subject matter of the invention, the Applicant is submitting herewith corrected claims, in which some additional features are introduced into claims to clarify further the invention.

In claim 1, the features are introduced from the description, paragraph [0046], lines 15-17:

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.“Thus, one of the important features of the present invention is that the timing errors caused by **crosstalk effects are measured when the tester is running a test pattern** to provide compensation of the timing error caused by this particular combination of signals.”

Similar changes are made to independent claim 9.

In claim 17, the features are introduced from the description:

paragraph [0053] lines 11-13: “These correction coefficients are further adjusted according to the invention for crosstalk timing errors.”

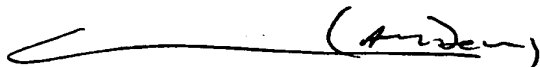
paragraph [0057] lines 1-2: “Timing error measurements are performed whilst the system is running a special crosstalk test.”

paragraph [0046] lines 15-17: (cited above).

Based on the above, the Applicant respectfully requests the Examiner's re-consideration of the application materials.

Please feel free to contact the Applicant's representative directly using the details below.

Respectfully submitted,



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